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I fortunately observed the last contact through a perfectly clear gap. It occurred at $1^h\ 38^m\ 27^s{\cdot}2$ L.S.T. = $21^h\ 22^m\ 23^s{\cdot}5$ L.M.T. I do not fancy that this determination is 1^s in error.

I employed a power of 74, with a red eye-shade; on my 4·2-inch Ross equatoreal, the cloud and mist obviating all necessity for the use either of a reflecting eye-piece or of a constricted aperture.

My latitude and longitude are approximately 51° 0′ 58″ N. and $17^s{\cdot}5$ E.

Forest Lodge, Maresfield, Sussex,
June 12, 1873.

Partial Solar Eclipse of May 25, 1873.
By the Rev. S. J. Perry.

During the greater part of this eclipse the sky was perfectly clear, but thick clouds obscured the Sun during the remainder of the morning.

Six photographs were taken of the successive phases, and the instant of exposure noted by a Frodsham chronometer. The first picture was taken when the Moon had sufficiently advanced on the Sun's limb to admit of accurate measurement, and it was intended to complete the series with a photograph of the shadow a minute before last contact; but the clouds interfered towards the end. A diameter of 121·5 millimetres was chosen as the most convenient under the circumstances for the photographs.

The following are the results obtained, the unit of length being the solar diameter :—

No.	G.M.T. h m s	Dist. between Cusps.	Magnitude.
1	7 38 41·7 a.m.	0·112	0·0063
2	7 50 16·9	0·513	0·142
3	8 7 43·0	0·730	0·317
4	8 21 1·1	0·791	0·388
5	8 32 35·7	0·825	0·435
6	8 44 29·1	0·756	0·345

Stonyhurst Observatory,
June 5th, 1873.

The Total Solar Eclipse of June 14th, 2151.
By J. Maguire, Esq.

In the *Monthly Notices* for December last I stated that, from elements which I considered doubtful, I had made a calculation which placed the central line of this eclipse to the north of Norwich. Since that time I have derived the places of the Sun

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and Moon from the Tables of Leverrier and Hansen, obtaining the following elements :

	d	h	m	s
G. M. T. of ☌ in R.A. ..	June 14	5	14	0
Sun and Moon's R.A. ..		5	31	32·6
		°	′	″
Moon's Declination N. ..		23	55	26·8
Sun's ,, N. ..		23	15	29·6
Moon's Hor. Mot. in R.A. ..			40	2
Sun's ,, R.A. ..			2	35·6
Moon's ,, Decl. N. ..			5	8
Sun's ,, Decl. N. ..				7
Moon's Equa. Hor. Parallax ..			60	20·6
Sun's ,, ,, ..				8·8
Moon's True Semidiameter ..			16	28·1
Sun's ,, ..			15	45·6

I have taken the sidereal time at Greenwich mean noon at $5^h\ 30^m\ 5^s$, and the obliquity of the ecliptic at 23° 15′ 11″.

By direct calculation I find that Ayr, Penrith, York, and Cromer, are on the central line. Edinburgh is within the northern limit of totality ; while Warrington, Derby, and Cambridge, are on the southern limit. The width of the zone of totality is 140 miles.

Whatever confidence I may have as to the accuracy of these elements, and the position of the central line, I cannot lose sight of the fact that they differ materially from those given by Mr. Hind in the *Monthly Notices* for January.

Norwich, June 1873.

Note explanatory of a Stereographic Projection of the Transit of 1882. By Richard A. Proctor, B.A., Cambridge.

It seems to me very desirable, in considering what preparations should be made for observing the Transit of 1874, to take carefully into account the relations which will be presented during the Transit of 1882. To neglect this precaution would, in my judgment, be as serious a mistake as for one nation to arrange its plans for either transit without a careful reference to the arrangements of other nations. It has been with the object of supplying this want that I have constructed the accompanying chart of the Transit of 1882 ; for although the circumstances of the later transit have been to some degree considered (by myself amongst other students of the subject), I do not think they have as yet been sufficiently brought into comparison with those of 1874. A comparison has indeed been instituted between the two

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